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ABSTRACT

A project of the Riverside Research Institute (RRI) provided training for 10 hard core unemployed for one year in four vocational skills: computer peripheral equipment operators, electronics technicians, machine operators, and draftsmen. Selection was based on at least an eighth grade verbal and numerical achievement level, tests, and interviews. Major components of the program were: orientation to the program, on-the-job training in all skill areas, job related basic education with additional mathematics, personal and vocational counseling, and sensitivity training of RRI employees. An evaluation indicated that the primary program objective, to provide skills training and a job opportunity to someone who ordinarily would not have had this chance, had been clearly satisfied. Success was also indicated by evaluations in the areas of personnel turnover (6 of the 10 were still employed one year after the program and 2 left to attend college on full tuition scholarships); rate of learning; job performance; and adjustment to working environment (progress in this area was extremely slow, but there were gradual improvements in absentee and lateness records and in diminution of time spent with counselors). (Author/NH)

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The Role of Industry in Training the Hard Core Unemployed[1]

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The 1960's saw a tremendous emphasis placed upon manpower training programs for disadvantaged minority groups. Legislation was enacted, such as the Manpower Development and Training Act of 1962 and the Economic Opportunities Act of 1964 to establish large sums of money which was made available for training unemployed and underemployed people. This sudden explosion resulted in some of the following problems:

(1) Training programs quickly mushroomed across the nation which were not of high quality. Most of the programs did not meet their training objectives.

(2) Industry was pressured into hiring graduates from these programs to fill their manpower requirements. These trainees not only failed to demonstrate skills which were purportedly acquired during the training programs, but were not psychologically or vocationally ready to adjust to the world of work.

(3) There was very little relationship between the number of trainees in various government funded programs, and the job commitments which were made by industry to hire graduates from these programs. There was frequently no reward at the end of the training session since there was no systematic effort to match training slots with position availability in industry.

The results were nearly catastrophic. Industry seemed eager to participate in upgrading and training programs, yet their reluctance toward action was obvious. In 1968, for example, the Opinion Research Corporation polled over 700 U.S. corporation leaders regarding whether their organizations should become involved in training programs for the hard core unemployed. The response was overwhelmingly in favor of it, yet there was no direction or vehicle provided by the government to assist corporations with this task.

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In 1968, the U. S. Department of Labor created the catalyst for bridging the gap between government and industry in manpower training through the creation of a program entitled: Job Opportunities in the Business Sector (JOBS). This was a program which represented a partnership between industry, represented by the National Alliance of Businessmen (NAB) and the government, represented by the Department of Labor to create new job opportunities for those who were at a disadvantage due to lack of experience, educational skills or because of discrimination against minority groups. The essential features of this program were:

(1) A cost sharing plan between the participating company and the Department of Labor. A company was to be reimbursed for all extra costs associated with setting up a training program including remediation, counselling, on-the-job training and sensitivity training. In return, the company agreed to hire the trainee as a full-time salaried member of the staff.

(2) Permanent employment for all trainees who successfully completed the training program.

(3) An opportunity to establish training capabilities and staff which could be of direct benefit to other company programs and employees.

(4) A program which was directly geared toward company recruitment requirements.

Riverside Research Institute has recently completed such a program under an MA-5 contract with the Department of Labor. The following is a brief description of the program, some of its problems and an evaluation of its success.

II. Description of RRI Program

A. General Information

The training program contract was signed with the U.S. Department of Labor as an MA-5 project to provide training for 15 hard core unemployed for a period of one year in four vocational skills: computer peripheral equipment operators, electronics technicians, machine operators and draftsmen. There were two primary factors for selecting these particular technologies. The first was based upon an existing shortage of talent in these areas; the second was based upon projections as to where RRI's growth would result in job openings over the year. The proposal was submitted to the U.S. Dept. of Labor in July and an award was made in October 1969. The training program commenced in December 1969 and was terminated in November 1970. The major components of the program were:

- — On-the-job training in all skill areas by existing RRI staff
- — Job related basic education with the emphasis upon mathematics
- — Counselling (personal and vocational)
- — Orientation and group counselling sessions emphasizing the world of work
- — Sensitivity training of RRI employees

The typical day for the trainee consisted of going to school in the morning for 3 hours of basic remedial work. The emphasis was upon developing his knowledge and skills to a level where he could adequately cope with the vocational job situation. The afternoons were spent with on-the-job training and a part of each afternoon was also left for individual counselling or tutoring as required.

B. Specific Job Requirements

As part of the training program, job descriptions were established so that objectives for training could be established. These requirements are given by area of specialty:

- Computer Peripheral Equipment Operator

These employees learned to use all of the peripheral equipment associated with a general purpose computer facility including keypunch, verifier, reproducer, line-printer sorter and interpreter. The first 20 weeks combined basic education and OJT with the remaining time devoted almost exclusively to improving skills with on-line equipment. Instruction on the total data processing operation was also included.

- Mechanical Draftsman

These employees learned the skills required to translate ideas, sketches, specifications and calculations into working plans usable in an electronics or machine shop facility. Emphasis was placed upon lettering, geometrical construction, schematics, graphics and machine tool assemblies. The first 20 weeks combined basic education and OJT with the remaining time used for improving skills on the drawing board.

- General Machine Operators

These employees learned to set up and operate a number of machines including drills, lathes, milling machines and a variety of presses. They learned to work to specifications and were able to read blueprints and specifications. They also learned a basic knowledge of materials. The first 20 weeks combined basic education and OJT with the remaining time used for hands-on experience in the machine shop.

- Electronics Technician

These employees learned the basic fundamentals of electricity and the use of all electronic tools. They learned the mechanics of electronics including the construction and mechanical assembly of a chassis. They also learned basic wiring and checkout of equipment using instruments such as a voltmeter. The first 20 weeks combined basic education and OJT with the remaining time used for direct experience in the electronics shop.

B. Selection of Trainees

One of the most critical steps in the entire program was that of selecting the trainees. A set of criteria had to be employed which satisfied the Department of Labor definition of "hard-core unemployed" and also provided the basic skills to cope with the complex requirements of the jobs for which the training was being provided. The Department of Labor requirements were fairly minimal such that any minority group member who was poor would qualify. This included individuals who did not have suitable employment, were school dropouts or were subject to special obstacles to employment. The [illegible] criteria was an academic one requiring all trainees to possess at least 8th grade level achievement in both verbal and numerical skills. Due to the high sophistication of the jobs under consideration, it was determined that without this educational level, the trainees would have almost no likelihood of succeeding even with fairly extensive remedial assistance.

The following procedures were followed by [illegible] in the selection of the trainees for the program.

(1) Recruitment - All recruitment for the program was accomplished by the Concentrated Employment Program (CEP) of the [illegible] or the New York State Employment Service. Initial screening was accomplished by these agencies as well as aptitude testing. All applicants were given the same test of mental ability which provided for separate scores of verbal, numerical and [illegible] ability. These scores along with the background material were forwarded to [illegible].

(2) [illegible] Interview - The interview was conducted by a [illegible] counselor and myself. These two individuals represented a substantial number of years of experience in the field of counseling and guidance. We found, by and large, that our past experience was of practically no value since the backgrounds and history of these applicants were unique. There were unexplained gaps in work records, school attendance, service records and many

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[illegible]

[illegible]

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[illegible] [illegible]

[illegible]

1. [illegible]

2. [illegible]

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Insert Figure 1 about here

- Job Performance

Two primary factors were used to evaluate the job performance of the trainees. Supervisors provided monthly reports which required ratings of each trainee on factors related to job performance such as quality, quantity, dependability and overall progress. These evaluations reflected continued improvement of all trainees until asymptotes were reached about 8 months after the program had commenced.

The second factor was the actual productivity of each trainee. In the drafting and computer sections, trainees were spending 50% of their time doing productive work within 6 months after the program began. They are fully productive employees at the present time. The machine shop trainees did not start becoming productive until 9 months after the program had commenced. At the present time, they are 50% productive spending the remaining portion of their time still learning to become prototype machinists. The electronics trainees were 50% productive after 9 months of the program and are presently fully productive employees of the Institute. They still spend much of their own time learning electronics theory and application. Therefore, on the criterion of work productivity, almost all of the remaining trainees are fully productive employees.

- Adjustment to Working Environment

There were several rating procedures involving the employee supervisors, the program counsellor and the project director. Objective measures of absenteeism and lateness were also recorded. Although progress was extremely slow in this area, there were gradual improvements in absentee and lateness records as well as a diminution of time spent with counsellors and supervisors discussing personal, vocational and social problems. There were, however, long periods of continued frustration on the part of supervisors and trainees regarding expectations, following of procedures, peer relationships and a general adjustment to the world of work. Through individualized counselling of both supervisors and trainees, a gradual adjustment was effected. At the present time, complete adjustment both socially and vocationally have taken place. Two trainees were dismissed because of their inability to adjust to the work situation in spite of intensive counselling.

IV. Problem Areas

A number of problem areas did emerge during the course of the program. The first concerned the supervisors. They became extremely frustrated at the inability of some trainees to make immediate adjustments to a new situation. Considerable time had to be spent counselling the supervisors how to deal with specific situations. Supervisors, as well as peers seemed to be "oversensitive" to the trainees and occasionally overreacted to situations involving trainee performance and disciplinary measures.

A second problem concerned the trainees. They had an extremely poor lateness and absentee record during the early portion of the program. Frequently, personal problems would arise that they attended to during the working day without exploring other alternatives. Oversleeping and transportation problems resulted in extreme lateness. These problems were finally resolved through counselling and role playing sessions where the position of the supervisor was clarified.

For a period of time during the early portion of the program, peer groups represented a serious morale problem as a result of the presence of a training program. It was finally discovered that they felt the trainees would ultimately replace them and therefore a considerable amount of job insecurity and competition was created. This was also resolved by counselling of supervisors on how to handle these situations.

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A number of problem areas were also avoided by:

- Obtaining the full support of management personnel prior to the commencement of the program.
- Dispelling the stereotype of the label "hard-core unemployed" during the sensitivity training sessions.
- Emphasizing individualized counselling, tutoring and a general "open-door" policy for all trainees and employees associated with the program.

V. Conclusion

I'm sure there could be a good deal of controversy with respect to whether this general area of work represents an area that the human factors community should be involved with. My contention is that it does. For example, we have been defining some of the job requirements and job specifications and personnel subsystem work in military programs. We have been doing a reasonably good job since we started selecting pilots during the second World War, by the use of pursuit rotor tasks, and many human factors people have been involved in setting up and implementing selection programs. We have been very much involved in defining and establishing training curricula and also trying to measure the effectiveness of various training programs. Those of us who have been trained in the industrial area have also done a considerable amount of job counselling and sensitivity training. At one time or another we have also been involved in program evaluation.

I am firmly convinced that this approach represents a real and significant solution to the problems of unemployment and poverty in our country today. As human factors scientists, particularly those trained in the behavioral sciences, we have the knowledge to convince management of the merits of this approach and to back up our convictions with action. I do believe that our "hard core unemployed" are trainable. This program, I believe has demonstrated this fact. I think all of us can play a significant role in solving this persistent and ever present urban problem.

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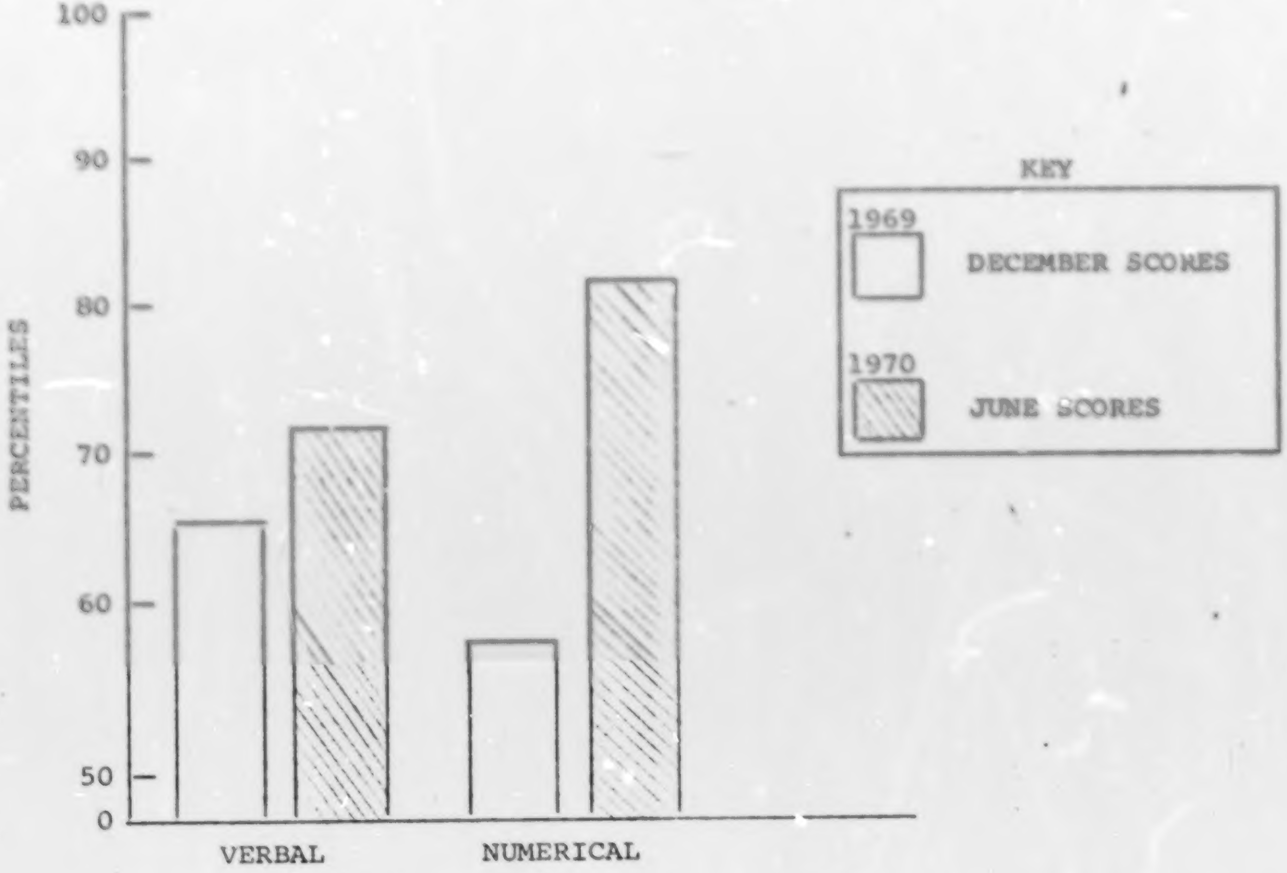

Figure 1 - A comparison of percentiles for 10 trainees tested at the beginning and six months after the start of training. These norms are based upon a Northern City school system using eighth grade students.